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TI - Vegetable oil-modified benzoxazine precursors for elec. insulators and braking materials and their preparation
IN - Gu, Yi; Han, Hui; Ling, Hong; Huang, Yi; Xie, Meili; Liu, Xinhua
PA - Sichuan United University, Peop. Rep. China
SO - Faming Zhuanli Shenqing Gongkai Shuomingshu, 8 pp.
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LA - Chinese
IC - ICM C08F242-00
CC - 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): 38, 45

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	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PN -	CN1259530	CN	1999-114603	19990106	
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CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
CN 1259530	ICM	C08F242-00

OS - MARPAT 134:179309
AB - The vegetable oil-modified benzoxazine precursors are prepd. from starting materials contg. phenol 40-70, vegetable oils 10-35, primary amines 20-70, and formaldehyde (30-40%) 45-100 parts; and dispersing the reaction products with 4-10 parts dispersing agents. The polymers obtained by ring-opening polymn. of the precursors with curing agents or in the presence of catalysts are useful for elec. insulators and braking materials using at >155.degree.. Thus, glass fabric was impregnated in a 50% soln. of 90 parts benzoxazine precursor (using in resin transfer molding) and 10 parts tung oil-modified benzoxazine precursor (prepd. from phenol, tung oil, formaldehyde, and aniline), and laminated to give a laminate having bending strength 767.1 MPa, vs. 235.9 MPa for a laminate with no vegetable oil-modified benzoxazine precursors.
ST - vegetable oil modified benzoxazine precursor prepn; phenol formaldehyde vegetable oil amine benzoxazine; benzoxazine vegetable oil modified elec insulator; brake material vegetable oil modified benzoxazine
IT - Polymers, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(benzoxazine-based; prepn. of vegetable oil-modified benzoxazine precursors for elec. insulators and braking materials)
IT - Cashew (Anacardium occidentale)
RL: RCT (Reactant); RACT (Reactant or reagent)
(nutshell liq.; prepn. of vegetable oil-modified benzoxazine precursors for elec. insulators and braking materials)
IT - Acids, uses
RL: CAT (Catalyst use); USES (Uses)

(org. and inorg.; prepn. of vegetable oil-modified benzoxazine precursors for elec. insulators and braking materials)

IT - Brakes (mechanical)
Electric insulators
Laminated materials
(phenolic resin binders for brake materials and elec. insulators from vegetable oil-modified benzoxazine precursors)

IT - Phenolic resins, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(phenolic resin binders for brake materials and elec. insulators from vegetable oil-modified benzoxazine precursors)

IT - Glass fiber fabrics
RL: MOA (Modifier or additive use); USES (Uses)
(phenolic resin binders for brake materials and elec. insulators from vegetable oil-modified benzoxazine precursors)

IT - Crosslinking agents
Crosslinking catalysts
(prepn. of vegetable oil-modified benzoxazine precursors for elec. insulators and braking materials)

IT - Lewis acids
RL: CAT (Catalyst use); USES (Uses)
(prepn. of vegetable oil-modified benzoxazine precursors for elec. insulators and braking materials)

IT - Castor oil
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of vegetable oil-modified benzoxazine precursors for elec. insulators and braking materials)

IT - Linseed oil
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of vegetable oil-modified benzoxazine precursors for elec. insulators and braking materials)

IT - Tung oil
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of vegetable oil-modified benzoxazine precursors for elec. insulators and braking materials)

IT - Amines, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(primary; prepn. of vegetable oil-modified benzoxazine precursors for elec. insulators and braking materials)

IT - Polymerization
(ring-opening; prepn. of vegetable oil-modified benzoxazine precursors for elec. insulators and braking materials)

IT - Fats and Glyceridic oils, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(vegetable; prepn. of vegetable oil-modified benzoxazine precursors for elec. insulators and braking materials)

IT - 100-97-0, uses
RL: MOA (Modifier or additive use); USES (Uses)
(curing agents; prepn. of vegetable oil-modified benzoxazine precursors for elec. insulators and braking materials)

IT - 7646-85-7, Zinc chloride, uses

RL: CAT (Catalyst use); USES (Uses)
(curing catalysts; prepn. of vegetable oil-modified benzoxazine precursors for elec. insulators and braking materials)

IT - 254-18-2DP, Benzoxazine, derivs., polymers
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(prepn. of vegetable oil-modified benzoxazine precursors for elec. insulators and braking materials)

IT - 50-00-0, Formaldehyde, reactions 62-53-3, Aniline, reactions 74-89-5, Methylamine, reactions 75-04-7, Ethylamine, reactions 100-46-9, Benzylamine, reactions 108-95-2, Phenol, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of vegetable oil-modified benzoxazine precursors for elec. insulators and braking materials)

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